Michigan Senate Energy and Public Utilities Committee
Michigan House of Representatives Energy and Technology Committee
December 2013 Ice Storm Speaker Notes
Trevor F. Lauer
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Introduction

Slide 1

Good Morning Mr. Chairman, representatives and guests. My name is Trevor F. Lauer, and I am vice president of Distribution Operations for DTE Energy, where we assure the safe and reliable delivery of electricity to the homes and businesses of 2.1 million DTE Energy customers. My responsibilities include the daily oversight of DTE distribution assets, both equipment and people, and I was directly in charge of the activities associated with the ice storm preparation, restoration, and communication. I have spent my professional career working in the energy sector and am pleased to have the opportunity to talk to you today about the December ice storm and address your questions.

We truly understand how critical electrical power is to everyone's daily life. This is magnified during cold weather and the holiday season. Approximately 10% of DTE customers were impacted by the ice storm. We recognize how hard it was on those customers to have extended outages. We would like to thank our customers for their patience and support as we restored their power.

I would also like to thank the dedicated DTE employees who worked through their holiday and in treacherous conditions to restore power to our customers.

Discussion Overview

Slide 2

My discussion outline is summarized on slide 2. I will start the discussion with our preparation activities in advance of the storm, then walk you through the weather patterns that week, and how it impacted our customers. I will explain DTE's restoration performance, our efforts to keep our customers and stakeholders informed through the storm and finish with lessons we have learned to improve our performance for our customers in future ice storms.

Preparation

Slide 3

On slide 3, I summarize some of the key preparation activities and decisions we made in advance of the storm.

On December 17th, our DTE Meteorologists started tracking a weather event expected to enter DTE service territory on the weekend of December 21, 2013.

On December 18th, we held preparatory storm strategy discussions and internally issued a storm risk warning that portions of the service territory could see 1/10 inch of ice due to freezing rain. DTE made inquiries into the availability of additional resources.

On December 19th, based on an upgraded National Weather Service forecast of more ice, DTE made the decision to secure out of state resources and have them on site before the ice storm occurred. Additionally, DTE requested a conference call with the Great Lakes Mutual Assistance group to acquire additional out of state resources. Additional storm preparation activities continued.

On December 20th, the National Weather Service ice forecast was increased to an estimated ¼ to ½ inch of ice. We continued our normal storm preparation processes. We held storm strategy conference discussions to develop a restoration plan, determine locations to pre-stage material, poles, and wire and finalize employee communications.

Operationally, we secured approximately 600 contractor lineman resources in addition to mobilizing all DTE Electric linemen, field personnel and first responders.

Logistically, we opened 4 pullout locations to manage the additional out of state resources and their trucks, pre-staged poles, wire spools and other repair materials in the areas we anticipated would be impacted, arranged for portable generators to be available and secured housing accommodations as appropriate.

DTE also proactively alerted customers of the impending weather via mass emails, social media, press releases and interviews with local TV and radio stations. On the 20th and 21st of December, the DTE media relations team conducted 16 radio and TV interviews, alerting customers of possible outages, how to prepare themselves and how DTE was preparing.

Weather

Slide 4

On slide 4, I would like to walk you through the weather that we experienced from December 21 - 28, 2013.

Just before midnight on Thursday, Dec 21st, we began seeing significant ice buildup in the Lapeer, Northern Oakland and Livingston counties of our service territory. During a ten to twelve hour period DTE lines accumulated upwards of ¾ of an inch of ice. In the next four days, temperatures remained below freezing. The snow that fell caused additional icing when it contacted trees and equipment. On December 27th, melting started to occur.

A quarter inch of ice will break large tree limbs and can increase the weight of a tree branch 30 times. A half of an inch of ice is the equivalent of 500 pounds of weight on a single power line span. It is not uncommon for a pole to have 8 wires (3 sub-transmission lines, 3 spans of primary, 1 span of secondary and at least 1 span of cable TV wire). These 8 wires could potentially add 4,000 additional pounds between two poles. This is more than the weight of a Chevy Malibu hanging between our poles for 4 days.

The photos demonstrate the severe ice conditions in the affected areas, causing damage to the electrical system and resulting in customer outages.

- Picture 1 – Tree falling in front of DTE truck caused additional outages after restoration had been completed.
- Picture 2 – Ice coats utility wires, poles, and equipment.

Outages

Slide 5

On slide 5, the picture on the right shows the ice accumulation across DTE service territory. The DTE zip code outage map on the left shows that the majority of outages were concentrated in a tight zone. The colored areas on the map indicate where customers were out of power.

The outage map had over 670,000 views during the course of the storm and was frequently utilized by the news media, and linked to numerous media websites.

Slide 6

On the next slide, you see the number of customer's outages as well as customers we restored on a daily basis throughout the week. After the initial ice storm event on the 22nd, approximately 50,000 additional customers lost power over the week.

I would like to call your attention to this, as it is one of the items that differs from wind and lightning storms. With ice storms, ice stays on the lines until the temperature goes above 32° and then begins melting. Only then is the risk of further damage reduced.

We did not see any significant ice melting until late in the day on the 27th of December.

In multiple cases, there were repeated outages on the same circuit over the week, making damage assessments inaccurate almost as soon as they were completed.

There are also the additional hazards of driving on ice covered roads and walking on ice covered ground. This slows down restoration efforts as crews take appropriate safety precautions to avoid injuries.

Restoration

Slide 7

Restoration efforts started as soon as the outages began to affect DTE customers. Linemen were dispatched the first night of the storm to cut live wires. Approximately 600 Public Safety employees were deployed to guard wire down locations to protect the public.

DTE had approximately 3,000 personnel, both in the field and in support of restoration activities. In this storm, DTE Electric brought in twice as many out of state linemen as we would have for a typical storm this size.

We installed over 19 miles of new wire in addition to numerous wire repairs and replaced over 200 utility poles and responded to approximately 2,300 wire downs.

In Oakland County, where Advanced Metering Infrastructure installation is nearly completed, outage and restoration communication notifications from the meters to our systems helped us prioritize our work very well.

For most of the restoration jobs – the critical path for restoring a customer's power was clearing tree interference. In this storm more than 50% of the time, the damage was caused by trees outside of DTE's easement. DTE had secured and utilized specialized line clearance equipment to expedite restoration. We had a special pullout area in the parking lots at Lapeer Schools dedicated for DTE overhead and forestry crews in the area.

Slide 8

On December 29th, DTE Electric was verifying that all customers were restored. Since Lapeer County does not have Advanced Metering Infrastructure, DTE employees drove to over 200 locations to verify that power was restored when customers did not answer their phones.

By the time we restored the last customer on December 29th, approximately 210,000 customers had experienced an outage.

DTE customers rely on us for accurate estimates to make important decisions. We were not satisfied with our customer restoration accuracy performance. DTE normal performance throughout 2013 was approximately 85% and in this ice storm our performance dropped to approximately 76%. Ongoing damage due to ice buildup and initial under estimation of the damages in certain areas challenged DTE's ability to meet the customer estimates. Many customers received multiple estimates from one day to another. DTE recognizes the frustration it caused our customers and apologizes for that. DTE clearly recognizes that we must do better on customer restoration estimate performance and we are committed to this.

Customer Communications

Slide 9

Preparation in advance of the storm helped us with DTE overall manpower availability for our customer communication staff during the storm. As we see on slide 9, we used all our designed customer communication channels to communicate with our customers.

Customers used the DTE online outage map and smart phone mobile app nearly one million times. DTE also made over 200,000 proactive outbound communication calls to our customers. We shared job progress received from our field employees and our Advance Metering Infrastructure meters.

Overall, DTE's average speed of answering a phone call was 35 seconds. DTE utilized multiple tools like the DTE outage map and the DTE mobile outage application and communicated via multiple channels – social media, TV, and radio, to keep our customers informed on progress. Multiple media updates were provided daily and approximately 30 interviews were conducted.

The Michigan Public Service Commission and regional county emergency operating centers were also kept informed on a daily basis.

Investments

Sustained investments in the electrical system help DTE Electric sustain 1st quartile reliability performance. In 2013, DTE spent over $700 million dollars on electrical system reliability. DTE Electric plans to invest over $3 billion dollars in our distribution system in the next five years to improve reliability performance.

Lessons learned

Slide 10

Though I am extremely proud of the dedication and work of the thousands of DTE Energy employees and our contractors during this ice storm, we can do better. DTE is committed to improving the customer experience.

We have some key areas we can improve to help deliver safe and reliable power to our customers. On slide 10, I list these key areas.

Customer Restoration Estimate Performance: First of all, DTE has to do better at our customer restoration estimate performance during ice storms. We will refine our methods and use this experience to better establish estimates in similar type of events in the future.

Line Clearance: DTE needs to develop an approach to address trees outside our easements. The emerald ash borer disease has been within the DTE service territory for approximately 15 years. DTE's internal estimate is that the disease is approximately 50% through the service territory. A secondary concern of the emerald ash border disease is that it has been proven to jump to other tree species. In addition, we see an additional threat to trees in the Asian long-horned beetle, which presents a threat to Michigan's maple trees.

Advanced Metering Infrastructure: DTE Electric's deployment of Advanced Metering Infrastructure meters provided valuable information to our customers and gave us the ability to understand their power outages. Advanced Metering Infrastructure assists DTE in identifying nested outages while the crew is still on site. DTE will continue the deployment of these meters across the service territory to assist us in understanding the extent of outages and to guide our restoration efforts.

In closing, I would like to thank DTE employees, the crews from six states that supported us, and the DTE local unions for their support. I would also like to

thank our customers for their patience and outpouring of support of DTE employees during the ice storm.

Thank you for the opportunity to appear here today and share this with you. I would be pleased to take any questions that the committee may have now.